Remarks/arguments:

In the FINAL office action the examiner rejected claims 1-12, 14-17, and 19 under 35 U.S.C. §112. Applicant has clarified the meaning of claim 1 by the present amendment. Thus, by the present amendment to claim 1, from which the other claims depend, it is believed that this grounds of rejection has been overcome. Accordingly the examiner is respectfully requested to withdraw this grounds of rejection.

The examiner next rejected claims 1-12, 14-17, 19-22, 24 and 26-29 as unpatentable over Braiman in view of Fisher et al. It is the examiner's position that it would have been obvious to modify Braiman by using an interconnecting material of the type disclosed in Fisher for the interconnecting material 14 of Braiman. Applicant disagrees with this conclusion.

Braiman teaches a process for making dental crowns. His claimed invention includes the steps of

"A. molding approximate tooth-shaped unfired thin powder shells representative of various teeth from a hardenable liquid mixture of ceramic powder...

B. selecting one of the unfired powder shells of approximate predetermined tooth contours having the greatest similarities to the crown desired for a particular patient;

C. applying a paste buildup of conventional porcelain powders to the selected one of the unfired powder shells to fill same into a more detailed fit molding to a conventional substructure;

D. purging the selected paste buildup and one powder shell by heating same which purges extraneous material therefrom;

E. baking the purged selected one buildup and shell under vacuum in a conventional manner to eliminate one member of the group in step A and obtain a solid homogenous ceramic crown; ..."

In the Braiman process the shell is fired. This much is clear and applicant's hard over structure may also be hardened by heating. Braiman also discloses the use of a metal understructure 13, to which the shell may be applied as shown in FIG. 3. However, Braiman says very little about how the shell is secured to the metal understructure. In fact, all Braiman says about the securement is as follows:

"In specific embodiments the shells may be attached to a concave metal understructure, which, in turn, is attachable to a prosthesis support in a patient's mouth." [col. 1, lines 55-57]

"FIG. 2 is a cross-sectional view of shell of FIG. 1 after filling with the porcelain powder paste and porcelain beads and exploded therefrom is the metal substructure with the opaque porcelain material applied thereof;" [col. 1, lines 63-66]

"In some instances, particularly in the case of crowns, the blank or powder shell may be originally attached to a metal understructure 13 by the dentine ceramic opaque paste 14 which bonds to the understructure typical to conventional methods." [col 3, lines 48-52]

Braiman does not suggest that when his over structure is placed over the base structure that it does not need to be fired. In fact, it can be implied that the Braiman process includes the firing of the dentine ceramic opaque paste 14, particularly since: a) such a paste would not bind without firing, and b) "the shell may be originally attached to a metal understructure by the dentine ceramic opaque paste 14 which bonds to the understructure typical to conventional methods." (emphasis added) When one studies this reference, there is simply no suggestion that the bonding of the shell to the metal understructure could take place after

the firing of the shell. Thus, the shell is originally attached to the metal understructure, presumably between steps C and D, recited above. In addition, Braiman certainly does not teach that his "dentine ceramic opaque paste 14" is light polymerizable.

Applicant teaches an interconnecting element which is light curable. The examiner's rejection recognized that Braiman does not teach that the ceramic opaque paste 14 is light hardenable. To overcome this defect he relies upon Fisher who teaches that a dental crown can be fabricated using "a light-cured, thin, intermediate layer 21". This thin layer is one component of layers forming the "coupling element" (as referred to by the Examiner) between a core material and the crown. Another layer of silane is required, and it is this layer of silane that Fisher requires.

Thus, the "coupling element" according to Fisher cannot be compared with the inventive coupling element made of only one (light-polymerizable) material which can be furthermore light-cured in-situ.

Fisher states:

> "According to the invention, a multi-element dental prosthetic device is prepared (for example, a crown) which includes a high-temperature ceramic (preferably aluminum oxide) core, an outer polyceramic jacket, and a plural-layer intermediate layer structure which allows and promotes secure and economically achieved joinder effectively between the core and the jacket. This intermediate layer structure includes a porcelain layer next to the core, a layer of material known in the art as silane next to the porcelain layer, and a layer of a suitable conventional "bonding" material in between the silane layer and the outer jacket."

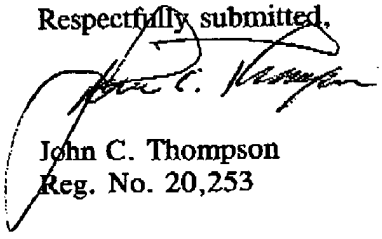
Clearly Fisher does not disclose "interconnecting material being light-polymerizable and filling the entire layer defining space between the inner contour of the over structure and the

outer contour of the base structure" as required by the claims. Thus Fisher does not make up the defect of the primary reference to Braiman.

In addition, it would not have been obvious to one having ordinary skill in the art to modify Braiman in the manner suggested by the examiner. More specifically, Braiman actually teaches away from the use of light curable compounds for his interconnecting material 14. Thus, Braiman knew of light curable compounds, as he used them in the shell molding materials, but he never hints at using such a material for the interconnecting material 14. In addition, the material of Fisher is only a thin layer, so thin that it may be applied in layers. However, according to applicant's invention, "the interconnecting material, which is preferably comprised of a hardenable plastic which can be hardened in-situ, develops a certain dampening effect so that the wear of the antagonistic teeth is also reduced even in the event that ceramic is deployed for the over structure." The thin layers of Fisher would have no such dampening effect.

In that all of the claims of this application are deemed to be in proper form, and furthermore, since the claimed subject matter would not have been obvious from the Braiman and Fisher references for the reasons set forth above, the allowance of this application is respectfully requested in the absence of more relevant prior art.

Respectfully submitted,



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